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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Brad A. Medford

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60533

7590

08/20/2008

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EXAMINER

NGUYEN, ANH NGOC M

ART UNIT

PAPER NUMBER

2616

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/797,913	MEDFORD, BRAD A.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Anh Ngoc Nguyen	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-8, 12-17 and 19-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-8, 12-17 and 19-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03/10/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Response to Amendment***

Applicant's Arguments/Remarks dated 06/11/2008 have been considered but are moot in view of new ground(s) of rejection.

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 11, 2008 has been entered.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 5, 7, 8, 15, 20 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Ploumen (US 2005/0138670).

Ploumen discloses digital video overlay for passive optical networks comprising the following features:

Regarding claim 1, Ploumen discloses a method comprising: communicating an Internet Protocol (IP) signal and an Asynchronous Transfer Mode (ATM) signal via an optical medium (see Fig. 4A and para 0038, the OLT 204b in the PON 200b interfaces with an ATM/IP network 214b and the optical medium is shown by the bi-directional arrow between 214b and 204b), wherein the ATM signal is phase modulated based on the IP signal (see para 0037, BPSK and QPSK are other modulation schemes that could be used in this environment therefore a phase modulation scheme).

Regarding claim 5, Ploumen discloses further comprising forming a combined ATM/IP signal by modulating a phase of the ATM signal based on the IP signal (see Fig. 4A, ATM/IP network 214b suggests that ATM and IP have been modulated to form ATM/IP...Ploumen discloses using BPSK and QPSK in para 0037).

Regarding claim 7, Ploumen discloses further comprising: communicating the ATM signal and the IP signal to a first location and a second location (see Fig. 4A, 214b network of ATM/IP coupled to OLT 204b and 204b outputting signals to plurality of ONT 208b).

Regarding claim 8, Ploumen discloses wherein the ATM signal and the IP signal are communicated via a passive optical network (see Fig. 4A and para 0038, the OLT 204b in the PON 200b interfaces with an ATM/IP network 214b and the optical medium is shown by the bi-directional arrow between 214b and 204b).

Regarding claim 12, Ploumen discloses an optical network termination (ONT) (see Fig. 4A and para 0038, ONT 208b) to extract an Internet Protocol (IP) stream from a received signal, the ONT comprising: a phase demodulator (see para 0037 and para 0040, BPSK or QPSK can be used by the modulator 242a therefore the demodulator 246b must be able to perform the reverse

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process, i.e. demodulator for BPSK or QPSK) adapted to: wherein the combined ATM/IP signal has been received and wherein the combined ATM/IP signal (see Fig. 4A and para 0038, the OLT 204b in the PON 200b interfaces with an ATM/IP network 214b therefore ATM/IP signal is received at the OLT 204b) comprises an ATM signal that has been phase modulated based on an IP signal (see para 0037, BPSK and QPSK are other modulation schemes that could be used in this environment therefore phase modulation).

Regarding claim 15, Ploumen discloses an apparatus (see Fig. 4A, PON 200b) to communicate an Asynchronous Transfer Mode (ATM) signal and an Internet Protocol (IP) signal, the apparatus comprising: an optical line terminal (OLT) (see Fig. 4A, OLT 204b), the OLT comprising a phase modulator configured to phase modulate the ATM signal based on the IP signal to produce a combined ATM/IP signal (see Fig. 4A, ATM/IP 214b entering OLT 204b and OLT204b has a modulator 242a, i.e. BPSK or QPSK), the OLT further to output the combined ATM/IP signal (see Fig. 4A, 239b link for outputting signals to ONT 208b).

Regarding claim 20, Ploumen discloses further comprising extracting a first ATM stream from the combined ATM/IP signal received at a second location, wherein the extracted first ATM stream is specific to the second location (see para 0040, demodulator 246b).

Regarding claim 21, Ploumen discloses further comprising extracting a second ATM stream from the combined ATM signal received at a third location, wherein the second ATM stream is specific to the third location (see para 0040, demodulator 246b).

***Claim Rejections - 35 USC § 103***

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6, 12, 19, 22, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ploumen (US 2005/0138670) in view of Dyke (US 6,870,836).

Ploumen discloses the claimed limitations as stated in paragraph 2 above. Ploumen does not specifically disclose the following features: regarding claim 6, wherein the ATM-based network comprises a G.983-based network; regarding claim 22, further comprising extracting a second IP stream at a second location by phase demodulating the combined ATM/IP signal; regarding claim 23, wherein the first IP stream is specific to the first location and the second IP stream is specific to the second location; regarding claim 24, wherein the extracted IP stream is specific to the ONT.

Dyke discloses system and method for transfer of IP data in an optical communication networks comprising the following features:

Regarding claim 6, Dyke discloses wherein the ATM-based network comprises a G.983-based network (see col. 1 lines 50 – 53, standard G. 983).

Regarding claim 12, Dyke discloses phase demodulate a combined Asynchronous Transfer Mode (ATM)/Internet Protocol (IP) signal to extract the IP stream (see col. 10 lines 8 - 14).

Regarding claim 19, Ploumen and Dyke disclose a method of communicating an IP stream, the method comprising: extracting a first IP stream (see Dyke, col. 10 lines 8 – 17,

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demodulating the optical carrier to recover the IP packet) from a combined Asynchronous Transfer Mode (ATM) signal/Internet Protocol (IP) signal received at a first location (see Ploumen, Fig. 4A, ATM/IP network 214b), wherein extracting the first IP stream comprises phase demodulating the combined ATM/IP signal (see para 0037 and para 0040, BPSK or QPSK can be used by the modulator 242a therefore the demodulator 246b must be able to perform the reverse process, i.e. demodulator for BPSK or QPSK); wherein the combined ATM/IP signal comprises an ATM signal that has been phase modulated based on an IP signal (see Fig. 4A, ATM/IP network 214b suggests that ATM and IP have been modulated to form ATM/IP...Ploumen discloses using BPSK and QPSK in para 0037).

Regarding claim 22, Dyke discloses further comprising extracting a second IP stream at a second location by phase demodulating the combined ATM/IP signal (see col. 10 lines 8 – 17, demodulating the optical carrier to recover the IP packet and sending to an addressed destination, i.e. location).

Regarding claim 23, Dyke discloses wherein the first IP stream is specific to the first location and the second IP stream is specific to the second location (see col. 10 lines 8 – 17, demodulating the optical carrier to recover the IP packet and sending to an addressed destination, i.e. location).

Regarding claim 24, Dyke discloses wherein the extracted IP stream is specific to the ONT (see col. 10 lines 8 – 17, demodulating the optical carrier to recover the IP packet and sending to an addressed destination).

It would have been obvious to one ordinary skilled in the art at the time the invention was made to modify the invention of Ploumen, and have the features, as taught by Dyke, thus

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providing for a method of operating an outstation connectable, in use, to a communication exchange through an optical communication resource, as discussed by Dyke (see col. 5 lines 7 - 10).

5. Claims 2 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ploumen (US 2005/0138670) in view of Loshbough (3,701,106).

Ploumen discloses the claimed limitations as stated in paragraph 2 above. Ploumen does not specifically disclose the following features: regarding claim 2, wherein modulating the ATM signal is phase modulated based on the IP signal without exceeding a specified tolerance of symbol period of the ATM signal; regarding claim 16, wherein the phase modulator is further configured to phase modulate the ATM signal based on the IP signal without exceeding a specified tolerance of symbol period of the ATM signal.

Loshbough discloses a data change detector comprising the following features:

Regarding claim 2, Loshbough discloses wherein modulating the ATM signal is phase modulated based on the IP signal without exceeding a specified tolerance of symbol period of the ATM signal (see abstract).

Regarding claim 16, Loshbough discloses wherein the phase modulator is further configured to phase modulate the ATM signal based on the IP signal without exceeding a specified tolerance of symbol period of the ATM signal (see abstract).

It would have been obvious to one ordinary skilled in the art at the time the invention was made to modify the invention of Ploumen, and have the features, as taught by Loshbough, thus providing for an apparatus for determining whether or not data within tolerance remains in tolerance for a period, as discussed by Loshbough (see col. 1 lines 19 - 49).



6. Claims 3, 4, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ploumen (US 2005/0138670) in view of Beidas et al (6,608,874).

Ploumen discloses the claimed limitations as stated in paragraph 2 above. Ploumen does not specifically disclose the following features: regarding claim 3, wherein said the phase modulating encodes multiple bits of the IP signal per pulse in the ATM signal; regarding claim 4, wherein said the phase modulating encodes two bits of the IP signal per pulse in the ATM signal; regarding claim 17, wherein the phase modulator further configured to encode multiple bits of the IP signal per pulse in the ATM signal.

Beidas discloses method and apparatus for quadrature multi pulse modulation of data for spectrally efficient communication comprising the following features:

Regarding claim 3, Beidas discloses wherein said the phase modulating encodes multiple bits of the IP signal per pulse in the ATM signal (see col. 1 lines 34 – 67, communicating two bits of information on each quadrature component of a carrier signal during a single signaling interval).

Regarding claim 4, Beidas discloses wherein said the phase modulating encodes two bits of the IP signal per pulse in the ATM signal (see col. 1 lines 34 – 67, communicating two bits of information on each quadrature component of a carrier signal during a single signaling interval).

Regarding claim 17, Beidas discloses wherein the phase modulator further configured to encode multiple bits of the IP signal per pulse in the ATM signal (see col. 1 lines 34 – 67, communicating two bits of information on each quadrature component of a carrier signal during a single signaling interval).

It would have been obvious to one ordinary skilled in the art at the time the invention was

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made to modify the invention of Ploumen, and have the features, as taught by Beidas, thus providing for a modulator that modulates at least two data signals, each comprising a set of digital values, as discussed by Beidas (see col. 2 lines 46 - 50).

7. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ploumen (US 2005/0138670) in view of Dyke (US 6,870,836) and further in view of Beidas et al (6,608,874).

Ploumen and Dyke disclose the claimed limitations as stated in paragraph 2 and paragraph 4 above. Ploumen and Dyke do not specifically disclose the following features: regarding claim 13, wherein the phase demodulator is further adapted to decode multiple bits of the IP stream per pulse in the combined ATM/IP signal; regarding claim 14, wherein the phase demodulator is further adapted to decode two bits of the IP stream per pulse in the combined ATM/IP signal.

Beidas discloses method and apparatus for quadrature multi pulse modulation of data for spectrally efficient communication comprising the following features:

Regarding claim 13, Beidas discloses wherein the phase demodulator is further adapted to decode multiple bits of the IP stream per pulse in the combined ATM/IP signal (see abstract, col. 1 lines 60 - 67 and col. 3 lines 1 - 30).

Regarding claim 14, Beidas discloses wherein the phase demodulator is further adapted to decode two bits of the IP stream per pulse in the combined ATM/IP signal (see abstract, col. 1 lines 60 - 67 and col. 3 lines 1 - 30).

It would have been obvious to one ordinary skilled in the art at the time the invention was made to modify the invention of Ploumen and Dyke, and have the features, as taught by Beidas,

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thus providing for a receiver that is capable of demodulating the modulated signal and compensating for the interference, as discussed by Beidas (see col. 2 lines 35 - 40).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh Ngoc Nguyen whose telephone number is (571) 270-5139. The examiner can normally be reached on M - F, from 7AM to 3PM (alternate first Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on 5712723182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anh Ngoc Nguyen/  
Examiner, Art Unit 2616  
08/06/2008

/Kwang B. Yao/

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Supervisory Patent Examiner, Art Unit 2616